

NOTES ON AUSTRALIAN COCCIDÆ, EX COLL. W. W. FROGGATT, WITH DESCRIPTIONS OF NEW SPECIES. No. i.\*

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(Communicated by W. W. Froggatt, F.L.S.)

(Plates xvi.-xvii.)

CHIONASPIS FORMOSA, n.sp.

(Plate xvii.)

Male and female puparia often disposed in stellate groups on the surface of the leaves, as depicted by Maskell for his *Mytilaspis formosa*.

♀. Puparium snowy white: 1st pellicle yellow: 2nd pellicle reddish. Secretionary area smooth; usually broadly dilated, sometimes narrower and more elongate. Long, 2.50 to 3.50 mm.

♂. Puparium (fig. 5) much smaller and narrower. Feebly tricarinate; the median carina distinct, the lateral carinæ obsolescent. Long, 1.50 mm.

Adult ♀ (fig. 6) narrowed in front, broadest across median abdominal area. Margins of segments well demarked. Many small spinnerets and a ventral group of small conical spines on the lateral area of mesothoracic and subsequent segments. A diffuse transverse dorsal series of conspicuous sharply-pointed spines with broadly dilated bases (fig. 7) at the junction of the pro- and mesothoracic segments: and two small groups of 3 or 4 similar spines on the venter, immediately behind the metathoracic spiracles. Pygidium broadly rounded; with a wide median cleft. Median lobes only represented (fig. 8), widely

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\* For an earlier paper, under a slightly different title, see p. 559 of the Proceedings for 1900.

divergent, forming a narrow chitinous margin to the median cleft, their apices prominent and broadly truncate. Spiniform squames rather large and prominent. Circumgenital glands in 5 groups: median group with 4 to 6 orifices; upper laterals with 10 to 16; lower laterals with 24 to 28. Numerous conspicuous oval pores on dorsal area of pygidium, in the usual linear series. Long, 1.25 to 1.50 mm.

*Hab.*—On undersurface of leaves of *Eucalyptus tereticornis*; Young, N.S.W. (Coll. W. W. Froggatt, Nos. 332 and 354)—On *Eucalyptus* sp.; Goulburn Valley, Victoria (Coll. C. French, No. 9).

I have been unable to compare the present insect with typical examples of Maskell's *Mytilaspis formosa* (which it resembles so remarkably in the disposition and colour of the puparia): but from that author's figures and description, it is evident that the characters of the female insect are very distinct.

#### MYTILASPIS SPINIFERA, Mask.

Mr. Froggatt has sent me typical examples of this species. On examination, I find that Maskell was mistaken in assigning the position of the remarkable series of spines to the dorsal surface. Their real position is distinctly ventral. This species is peculiar to the "Weeping Myall," *Acacia pendula*, A. Cunn., and has a range as wide as its host plant.

#### ANTONINA AUSTRALIS, n.sp.

(Plate xvi.)

Insect enclosed in a white felted sac, with a small aperture at posterior extremity, through which projects a delicate brittle tubular filament. During the life of the insect this filament usually bears at its extremity a globule of the liquid sugary excreta, thus ensuring the discharge of this substance at a sufficient distance to avoid inconvenience to the insect. The sacs are more or less concealed beneath the sheathing bases of the leaves of the plant.

Adult ♀ (fig. 1) dull purple or reddish-brown. Subglobular, somewhat flattened on the ventral area. In the early adult

period there are transverse furrows marking the abdominal segments; but in older examples these are frequently obscured. At the posterior extremity the terminal segment projects slightly and is more densely chitinous, and roughened by small irregular prominences. It bears on its dorsal surface the anal ring, from which spring 6 stout hairs (fig. 2). Antenna (fig. 3) minute and atrophied, consisting of two irregular joints, the basal one incomplete; terminal joint with a few stout hairs. Legs entirely wanting. Spiracles (in macerated examples) large and conspicuous. The whole surface of the body thickly bestrewn with circular spinnerets, some of which give rise to small inconspicuous hairs. Long, 2 to 3·50 mm.; broad, 1·75 to 2·75 mm.

Young larva (fig. 4) with well developed legs and antennæ. Anal lobes minute, each bearing a stout seta. A transverse series of circular spinnerets on each segment,—about 14, of which 8 are dorsal and 6 ventral. Similar transverse series of bristles, alternating with the spinnerets. Antenna 6-jointed; 6th as long as or longer than the previous three together. Tarsus about equal to tibia. Anal ring with 6 hairs. Long, 0·65 mm.

*Hab.*— On “Nut-grass” (*Cyperus rotundus*), almost subterranean, clustered amongst the bulbous bases of the stems. Said to be destroying this plant “over a large tract of country on the Hunter River Flats, Australia.” As the nut-grass is an objectionable weed, this Coccid may be classed amongst the few beneficial species.

*Antonina australis* bears a strong superficial resemblance to *Chaetococcus graminis* of Maskell, but differs (*vide* that author's description) in the following particulars:—In the presence of only 6 (instead of 8) hairs on the anal ring; and in the terminal segment of the abdomen being prominent and tuberculate. It differs from *Ant. purpurea*, Sign., in the greater number and prominence of the circular spinnerets, and in the tuberculate character of the terminal segment. From *A. socialis*, Newst., it may be distinguished by the same difference in dermal characters and in its much smaller size. *A. nortoni*, Parrott and Ckll., differs in having the antennæ distinctly 3-jointed. *A. crawi*, Ckll., has

obscurely 4-jointed antennæ. I have not had access to the description of *A. parrotti*, Ckll., but it is unlikely that a species inhabiting New Mexico will be identical with the Australian insect.

I would here like to correct a statement that occurs in one of Maskell's papers (Trans. N.Z. Inst. 1898, p. 219), in which that author wrongly attributes to me the opinion that his *Chaetococcus bambusæ* is specifically identical with *Antonina purpurea* of Signoret. *Chaet. bambusæ* is, of course, markedly distinct. The misconception arose from my suggesting to Mr. Maskell the affinities of his genus *Chaetococcus* with the older genus *Antonina*, and pointing my remarks by reference to the type, *A. purpurea*. The lamentable death of the talented author prevented my explanation of his misconception. I am still of opinion that *Chaetococcus*, as defined by Maskell, is inseparable from *Antonina*. I consider the difference in the nature of the sac of his type species to be merely environmental.

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#### EXPLANATION OF PLATES XVI.-XVII.

##### Plate xvi., *Antonina australis*.

- Fig. 1.—Adult ♀, ventral aspect (× 35).  
 Fig. 2.— ,, ,, terminal segment, dorsal aspect (× 150).  
 Fig. 3.— ,, ,, antenna (× 600).  
 Fig. 4.—Young larva, ventral aspect (× 100).

##### Plate xvii., *Chionaspis formosa*.

- Fig. 5.—Male puparium (× 25).  
 Fig. 6.—Adult ♀, ventral aspect (× 100).  
 Fig. 7.— ,, ,, dorsal spines (× 650).  
 Fig. 8.— ,, ,, extremity of pygidium (650).